UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,658	01/28/2002	Michael J. Pollack	200285.0689/670U1	3856

570 7590 08/09/2005

AKIN GUMP STRAUSS HAUER & FELD L.L.P.
ONE COMMERCE SQUARE
2005 MARKET STREET, SUITE 2200
PHILADELPHIA, PA 19103

EXAMINER	
LEE, RICHARD J	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/058,658	POLLACK, MICHAEL J.	
	Examiner	Art Unit	
	Richard Lee	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. In view of the Brief filed November 24, 2004, the following grounds of rejections are deemed proper in order to correct minor oversights and to place the claims in better form for appeal. The Examiner apologizes for any inconvenience that this may have caused for the applicant.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 4, 5, 9, 10, 13, 14, 23, 27, 28, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Qureshi et al of record (5,956,077) in view of Nance et al of record (6,111,599) and Heid of record (5,993,902).

Qureshi et al discloses an inspection method and apparatus for tanks, and substantially the same optical monitoring system as claimed in claims 1, 4, 5, 9, 10, 13, 14, 23, 27, 28, 30, and 31 for transmitting images from a hostile environment within the interior of a sealed chamber to the chamber exterior, the chamber having a wall and an access port extending through the wall (see Figures 2, 4, 5, column 2, lines 41-47), the monitoring system comprising substantially the same flexible, generally tubular, elongated housing having a distal end, a proximal end and an interior (see 31, 32, 37, 38, 41 of Figures 2 and 8), the proximal end of the housing being rigidly secured to the chamber wall at the access port, the interior of the housing being accessible through the port (see 37 of Figure 2), the interior of the housing including a transmission media for transmitting images of the interior of the chamber from the distal end of the housing to the proximal end of the housing and through the access port (see 41 of Figures 2 and 8, and column

3, lines 41-51, column 4, lines 3-16, lines 37-67); a monitor located outside of the chamber and connected to the transmission media for receiving and displaying the recorded images of the interior of the chamber (i.e., 67 of Figure 9, and see column 3, lines 41-51, column 4, lines 3-16, lines 37-67); a video camera (i.e., 41 of Figures 2 and 8) positioned to record images of the interior of the chamber; a sensor (i.e., 41 of Figures 2 and 8) for sensing a parameter of the hostile environment, and an apparatus (i.e., 67 of Figure 9) located outside of the chamber and connected to the transmission media for receiving and processing the sensor signal and displaying a representation of the sensor signal.

Qureshi et al does not particularly disclose, though, the followings:

(a) a hermetically sealed housing, the housing being made of a non-porous, corrosive resistant material, the distal end of the housing including a sealed window, wherein the window is formed from a material selected from the group consisting of synthetic sapphire, glass, quartz and a polymeric material, wherein the window is secured to the housing by a method selected from the group consisting of brazing, fusion, and an adhesive, a video camera positioned to record images of the interior of the chamber through the window, a sensor for sensing a parameter of the hostile environment through the window, and transmitting images of the interior of the chamber obtained through the window from the distal end of the housing to the proximal end of the housing as claimed in claims 1, 4, 5, 9, 13, 14, 23, 27, 28, 30, 31;

(b) the proximal end of the housing being rigidly secured to the chamber wall at the access port to form a hermetic seal between the proximal end of the housing and the chamber as claimed in claims 1, 9, 23, 30, and 31.

Regarding (a), Nance et al discloses an apparatus for observing a hostile environment as shown in Figures 1 and 2, and teaches the conventional use of a hermetically sealed housing (i.e., 10 of Figure 2 and see column 4, lines 30-38) made of a non-porous, corrosive resistant material, wherein the distal end of the housing including a sealed window (i.e., 11 or 13 of Figure 2, and see column 4, lines 12-38), wherein the window is formed from a material selected from the group consisting of synthetic sapphire, glass, quartz and a polymeric material, wherein the window is secured to the housing by a method selected from the group consisting of brazing, fusion, and an adhesive (see Figure 2 and column 4, lines 12-38), a video camera/sensor positioned to record images of the hostile environment/interior of the chamber through the window (see 11, 13, 30 of Figure 2 and column 4, lines 12-65), and transmitting images of the interior of the chamber obtained through the window from the distal end of the housing to the proximal end of the housing (see column 4, lines 12-65). Therefore, it would have been obvious to one of ordinary skill in the art, having the Qureshi et al and Nance et al references in front of him/her and the general knowledge of hermetically seal housings with sealed windows associated with inspecting chambers, would have had no difficulty in modifying the housing structure as shown in Figure 2 of Qureshi et al by providing the non-porous, corrosive resistant hermetically seal housing with the distal end of the housing including a sealed window as shown in Nance et al for the same well known protection of the camera within the housing from hostile environments when inspecting the interior of chambers purposes as claimed.

Regarding (b), Heid teaches the technical features of forming a hermetical seal between the proximal end of a housing (i.e., camera 50 of Figure 1) and the chamber 12 of Figure 1. Therefore, it would have been obvious to one of ordinary skill in the art, having the Qureshi et al,

Nance et al, and Heid references in front of him/her and the general knowledge of securing camera housings at the access ports of chambers, would have had no difficulty in providing the hermetical seal between the proximal end of the housing and the chamber as taught by Heid as part of the modified system within Qureshi et al and Nance et al for the same well known protection from chemical leaks or dangerous gases purposes as claimed.

4. Claims 2, 11, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Qureshi et al, Nance et al, and Heid as applied to claims 1, 4, 5, 9, 10, 13, 14, 23, 27, 28, 30, and 31 in the above paragraph (3), and further in view of Stattuck et al of record (4,591,794).

The combination of Qureshi et al, Nance et al, and Heid discloses substantially the same optical monitoring system as above, but does not particularly disclose wherein the housing comprises a flexible sheath formed of a stainless steel bellows as claimed in claims 2, 11, and 25. The particular use of stainless steel bellows for housing structures associated with borescopes and monitoring of chambers, however is old and well recognized in the art, as exemplified by Stattuck et al (see column 3, line 64 to column 4, line 30). Therefore, it would have been obvious to one of ordinary skill in the art, having the Qureshi et al, Nance et al, Heid, and Stattuck et al references in front of him/her and the general knowledge of housing structure materials within monitoring systems, would have had no difficulty in providing the stainless steel bellows structure as taught by Stattuck et al for the housing of Qureshi et al for the same well known support and protection of the housing purposes as claimed.

5. Claims 3, 12, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Qureshi et al, Nance et al, and Heid as applied to claims 1, 4, 5, 9, 10, 13, 14, 23, 27, 28, 30, and 31 in the above paragraph (3), and further in view of Chiodo of record (4,540,258).

The combination of Qureshi et al, Nance et al, and Heid discloses substantially the same optical monitoring system as above, but does not particularly disclose wherein the housing comprises a flexible polymeric tube as claimed in claims 3, 12, and 26. The particular use of flexible polymeric tubes for housing associated with camera monitoring devices, however is old and well recognized in the art, as exemplified by Chiodo (see 54 of Figure 1 and column 4, lines 48-53). Therefore, it would have been obvious to one of ordinary skill in the art, having the Qureshi et al, Nance et al, Heid, and Chiodo references in front of him/her and the general knowledge of housing structure materials within monitoring systems, would have had no difficulty in providing the flexible polymeric tube structure as taught by Chiodo for the housing of Qureshi et al for the same well known support, protection, and flexible movement of the housing purposes as claimed.

6. Claims 6, 7, 17, 20, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Qureshi et al, Nance et al, and Heid as applied to claims 1, 4, 5, 9, 10, 13, 14, 23, 27, 28, 30, and 31 in the above paragraph (3), and further in view of Howell et al of record (3,778,170).

The combination of Qureshi et al, Nance et al, and Heid discloses substantially the same optical monitoring system as above, but does not particularly disclose wherein the housing includes a borescope having a viewing end which is aligned with the sealed window, the interior of the housing including a flexible borescope for transmitting images of the interior of the chamber obtained through the window from the distal end of the housing to the proximal end of

the housing and through the port, a monitor located outside of the chamber and connected to the borescope for receiving and displaying images of the interior of the chamber, and wherein the transmission media is comprised of fiber optic bundle as claimed in claims 6, 7, and 17. However, Howell et al discloses a borescope guide tube as shown in Figure 2, and teaches the conventional use of a fiber optic bundle borescope (i.e., 62 of Figure 2, and see column 2, line 53 to column 3, line 7) having a viewing end which is aligned with a sealed window (i.e., as provided by Nance et al), the interior of the housing including a flexible borescope for transmitting images of the interior of the chamber obtained through the window from the distal end of the housing to the proximal end of the housing and through the port (see Figure 2, and column 4, lines 27-49, column 6, lines 32-65), and a monitor (see column 5, lines 12-30) located outside of the chamber and connected to the borescope for receiving and displaying images of the interior of the chamber. Therefore, it would have been obvious to one of ordinary skill in the art, having the Qureshi et al, Nance et al, Heid, and Howell et al references in front of him/her and the general knowledge of borescopes for transmitting and monitoring images, would have had no difficulty in providing the fiber optic bundle borescope for transmitting and monitoring of images as taught by Howell as part of the chamber monitoring within Qureshi et al for the same well known transmission and monitoring of images from a fiber optic borescope purposes as claimed.

7. Claims 8, 15, 16, 24, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Qureshi et al, Nance et al, and Heid as applied to claims 1, 4, 5, 9, 10, 13, 14, 23, 27, 28, 30, and 31 in the above paragraph (3), and further in view of Braithwaite et al of record (US 2002/0116987 A1).

The combination of Qureshi et al, Nance et al, and Heid discloses substantially the same optical monitoring system as above, but does not particularly disclose the followings:

(a) wherein the interior of the housing is provided with a fluid under pressure to control the environment within the interior of the housing as claimed in claims 8, 16, and 29;

(b) wherein the camera is an infrared camera as claimed in claim 15; and

(c) wherein the sensor is selected from the group consisting of temperature sensor, a pressure sensor, an oxygen sensor and a spectra graphic chemical analysis sensor as claimed in claim 24.

Regarding (a) to (c), Braithwaite et al discloses an apparatus and method for measuring extensional rheological properties of a material as shown in Figure 1, and teaches the conventional fluid pressure control of an environment within the interior of a housing, temperature sensors, and the use of infrared cameras for monitoring elements within the housing (see sections [0034], [0039], [0040] of page 3, section [0044] of page 4). Therefore, it would have been obvious to one of ordinary skill in the art, having the Qureshi et al, Nance et al, Heid, and Braithwaite et al references in front of him/her and the general knowledge of interior environment controls within hostile chambers, would have had no difficulty in providing the infrared camera, temperature sensor, and fluid pressure control system as taught by Braithwaite et al for the interior of the housing of Qureshi et al for the same well known temperature sensing,

infrared imaging, and fluid pressure control of a hostile chamber environment purposes as claimed.

8. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Qureshi et al, Nance et al, Heid, and Howell et al as applied to claims 1, 4-7, 9, 10, 13, 14, 17, 20, 21, 23, 27, 28, 30, and 31 in the above paragraphs (3) and (6), and further in view of Stattuck et al of record (4,591,794).

The combination of Qureshi et al, Nance et al, Heid, and Howell et al discloses substantially the same optical monitoring system as above, but does not particularly disclose wherein the housing comprises a flexible sheath formed of a stainless steel bellows as claimed in claim 18. The particular use of stainless steel bellows for housing structures associated with borescopes and monitoring of chambers, however is old and well recognized in the art, as exemplified by Stattuck et al (see column 3, line 64 to column 4, line 30). Therefore, it would have been obvious to one of ordinary skill in the art, having the Qureshi et al, Nance et al, Heid, Howell et al, and Stattuck et al references in front of him/her and the general knowledge of housing structure materials within monitoring systems, would have had no difficulty in providing the stainless steel bellows structure as taught by Stattuck et al for the housing of Qureshi et al for the same well known support and protection of the housing purposes as claimed.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Qureshi et al, Nance et al, Heid, and Howell et al as applied to claims 1, 4-7, 9, 10, 13, 14, 17, 20, 21, 23, 27, 28, 30, and 31 in the above paragraphs (3) and (6), and further in view of Chiodo of record (4,540,258).

The combination of Qureshi et al, Nance et al, Heid, and Howell et al discloses substantially the same optical monitoring system as above, but does not particularly disclose wherein the housing comprises a flexible polymeric tube as claimed in claim 19. The particular use of flexible polymeric tubes for housing associated with camera monitoring devices, however is old and well recognized in the art, as exemplified by Chiodo (see 54 of Figure 1 and column 4, lines 48-53). Therefore, it would have been obvious to one of ordinary skill in the art, having the Qureshi et al, Nance et al, Heid, Howell et al, and Chiodo references in front of him/her and the general knowledge of housing structure materials within monitoring systems, would have had no difficulty in providing the flexible polymeric tube structure as taught by Chiodo for the housing of Qureshi et al for the same well known support, protection, and flexible movement of the housing purposes as claimed.

10. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Qureshi et al, Nance et al, Heid, and Howell et al as applied to claims 1, 4-7, 9, 10, 13, 14, 17, 20, 21, 23, 27, 28, 30, and 31 in the above paragraphs (3) and (6), and further in view of Braithwaite et al of record (US 2002/0116987 A1).

The combination of Qureshi et al, Nance et al, Heid, and Howell et al discloses substantially the same optical monitoring system as above, but does not particularly disclose the followings wherein the interior of the housing is provided with a fluid under pressure to control

the environment within the interior of the housing as claimed in claim 22. However, Braithwaite et al discloses an apparatus and method for measuring extensional rheological properties of a material as shown in Figure 1, and teaches the conventional fluid pressure control of an environment within the interior of a housing (see sections [0034], [0039], [0040] of page 3). Therefore, it would have been obvious to one of ordinary skill in the art, having the Qureshi et al, Nance et al, Heid, Howell et al, and Braithwaite et al references in front of him/her and the general knowledge of interior environment controls within hostile chambers, would have had no difficulty in providing the fluid pressure control system as taught by Braithwaite et al for the interior of the housing of Qureshi et al for the same well known fluid pressure control of a hostile chamber environment purposes as claimed.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (571) 272-7333. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m, with alternate Fridays off.

MEHRDAD DASTOURI
SUPERVISORY PATENT EXAMINER
TC 2600
Mehrdad Dastouri

Richard Lee/rl

8/4/05